

animal and of the individual polyps wholly different from that which is found in every species of the family *Brachiolites*.

In all the various and so greatly varying forms which have been thus seen to be included in the genus *Cephalites* one end is found to be subserved, namely, the maintenance of the security of the whole mass, and of each individual of its myriads of living tenants; together with the unimpeded access of the sea-water—that element upon whose constant presence the life and subsistence of those myriads depended. The great diversity is no less striking than is, in each case, the completeness of the varying methods which nature has adopted for securing that ever-teeming, ever-active life which excites the inquirer's increased admiration at every step he takes.

[To be continued.]

XXX.—Notes, &c. on the genera of *Insects* *Pissodes*, *Hypera*, &c.; with descriptions of several new species. By JOHN WALTON, F.L.S.

Fam. CURCULIONIDÆ.

Genus PISSODES, *Germ.*, *Schönh.*, *Steph.*

1. *Pissodes Pini*, Linn., Gyll., Steph., Schönh.

Recently found in Scotland rather plentifully by Mr. Weaver; "on rails, in a fir-wood, Weybridge, in June," Mr. Smith; "under side of a fir-log, Dalmeny Park, Scotland," Mr. R. N. Greville; "under the branches and chips of the Scotch fir lying on grass, Gosforth Woods, Northumberland," Mr. T. J. Bold.

2. *P. notatus*, Fab., Gyll., Steph., Schönh.

— *Fabricii*, Steph., non Leach MSS.

Two specimens of this insect in the collection of the British Museum, taken in Scotland by the late Dr. Leach, appear to have been mistaken for the following by Mr. Stephens.

A single specimen found under a stone in an old gravel-pit at Yaxham near East Dereham, Norfolk, by Mr. Wollaston.

3. *P. picea*, Illig., Schönh.

— *Fabricii*, Leach MSS. sec. specim. Mus. Brit.

Oblong-ovate, piceous, sparingly clothed with flavescent scales. Head short, convex, obsoletely punctulated, front with a deep fovea between the eyes; rostrum nearly as long as the head and thorax, moderately stout, cylindrical, slightly curved, closely punctured, brown, and sprinkled with scales at the base. Antennæ scarcely reaching to the middle of the thorax, rather thick, rufopiceous, setose and pubescent. Thorax considerably narrowed

anteriorly, dilated and rounded at the sides posteriorly, convex above, closely rugose-punctate, a slender abbreviated carinula on the middle of the back, and two remote foveolæ on the disc. Elytra elongate, punctate-striate, the punctures deep, oblong, remote, very unequal, small towards the base and apex, and much larger in the middle; the interstices closely rugulose, alternately broader and elevated; sprinkled with obscure lutescent scales, and with a broad unequal abbreviated fascia behind the middle composed of flavescient scales. Legs elongate, pale rufo-piceous, femora and tibiæ annulated with whitish scales in the middle. Length 4 lines.

There is one specimen of this insect, reputed to be British, in the collection of the National Museum.

Genus *HYPERA*, Germ. (1821), Curt., Steph., Westw.
Phytonomus, Schönh. (1826)*, Spry et Shuck.

Great confusion has hitherto prevailed in this country as to the specific identity of the insects of this genus: although our catalogues contain from twenty-nine to thirty-one specific names, of which seven have been sunk into varieties and twenty-two described as specifically distinct by Mr. Stephens in his 'Manual of British Coleoptera,' yet, after a most rigorous comparative examination of numerous specimens, I have not been able to identify more than fourteen distinct species; I have therefore ventured to go further, by reducing eight more names into synonyms or varieties. It appears to me that British entomologists have relied too much on the colour and markings of the scales, and on the colour of the different organs of the body, as specific distinctions, but these characters in a majority of the species are extremely variable and consequently unsafe to depend upon. I have corrected the names of a few insects by means of well-authenticated foreign specimens, and in accordance with the authorities so often named in my former notes, which will I hope have a tendency to establish the nomenclature upon a uniform and permanent foundation.

1. *Hypera punctata*, Fab., et auct. alior.
Curc. medius et austriacus, Marsh., Kirb. MSS.
2. *H. fasciculata*, Herbst, et auct. alior.
— *sticticus*, Kirb. MSS.

Very rare and local: it has not occurred of late years to my

* I cannot find any reason assigned by Schönherr for changing the name *Hypera*; I have therefore, in accordance with the just law of priority, followed those British authors who have retained it; yet it is rather remarkable that Germar himself, with many other continental entomologists, have adopted *Phytonomus*. Latreille employed a similar name (*Hyperia*) for a genus of Crustacea, which occurs for the first time in 'Cuv. Règ. Anim.' iv. 1829.

knowledge. In the cabinets of the British Museum, Entomological Society, Curtis, Stephens and Walton.

3. *H. Polygoni*, Linn. sec. ej. Mus., Fab., Gyll., Steph., Schönh.
 — *arator* var., Linn. sec. ej. Mus., Marsh., Steph. Ill., Kirb. MSS.
 — *canescens* var. et *Viciæ* var., Steph. sec. ej. Mus.
 — *pivicornis* var., Steph. sec. ej. Man.

The male has the anterior tibia acutely dentate in the middle within. Of *Rhynch. Viciæ* of Gyll. I have never seen an indigenous specimen agreeing with the two foreign insects in the collection of Mr. Kirby.

Rather common; found in damp meadows near Lyndhurst, Battersea Fields, Arundel, Yorkshire, &c. in June.

4. *H. Pollux*, Fab., Gyll., Germ., Schönh.
 — *alternans* var., Steph. Ill.
 — *Kunzii* var., Steph. Man., non Schönh.
 — *palustris* (Leach MSS.), Steph.
 — *Julinii* (Sahlb.), Schönh., var. sec. Germ.
 — *biteniatus*, Kirb. MSS.

I sent many specimens of this insect to Germar, who has subdivided the varieties as follows:—

- a. "With gray scales upon the elytra, and with small square spots arranged in rows—the true *Phyt. Pollux*, auctor.
- b. "With brown scales; the elytra checkered with black, and with two broad, gray, black checkered longitudinal lines—*Hypera palustris* of Steph.
- c. "Brown or black, with three gray unspotted longitudinal lines upon each clytron—*Hypera alternans* of Steph.; *Kunzii*, Steph. (but not Schönh.); *Julinii*, Sahlb.*"

Identified as *Rh. Pollux* of Gyll. by a foreign specimen in the collection of Mr. Kirby. I possess foreign specimens from Germar of *Hy. Kunzii*, which is undoubtedly a very distinct insect, and unknown as British. There is a fine series of varieties of *Rh. palustris* of Leach in the British Museum; also Mr. S. Stevens and myself have a long series of this insect.

Occasionally found on grassy banks, at the sides of ponds and ditches, in marshy places, but not plentifully, in June,

5. *H. Rumicis*, Linn. sec. ej. Mus., et auct. alior.
Procas pyrrhodactylus var., Marsh., Steph.
H. albicans, *griseolus* et *elongatus*, Kirb. MSS.

This insect in general habit and sculpture very much resembles the preceding; it may however be distinguished by having the rostrum gradually dilated from the middle to the apex.

Extremely common on docks in marshy situations.

* Ent. Zeit. no. 5. p. 100, 1842.

6. *Hypera murina*, Fab., Gyll., Germ., Schönh.
 — *Pollux et elongata* var., Steph. sec. ej. Mus.
 — *nebulosa* var., Steph. sec. ej. Man.
 — *fusco-cinereus*, Marsh. sec. Mus. Steph. et Kirb.
 — *interruptus*, Marsh. sec. Steph. Catal.
 — *dorsiger*, Kirb. MSS.

This is a larger insect than any of its congeners, and chiefly distinguished by having the thorax subglobose, greatly dilated and rounded at the sides; the elytra elongate, nearly four times as long as the thorax.

Rare; found in damp grassy places. Plumstead, Barnes Common, Mr. S. Stevens.

7. *H. tigrina* (Dej.), Schönh.
 — *elongata*, Curt. MSS.

Elongate, black, thickly clothed with cinereous and silvery white scales, and with white and fuscous hairs. Head short, convex, closely punctulated; eyes oblong, depressed; rostrum rather longer than the thorax, subcylindrical, slender, curved and punctulated, clothed with hair before the base in the male. Antennæ inserted before the middle of the rostrum, rather longer than the head and thorax, rufo-ferruginous, pilose; clava oblong-ovate, obscure black. Thorax subdepressed, broader than long, considerably dilated, and rounded at the sides a little before the middle, closely and minutely punctured; a broad stripe on each side and a line of silvery white scales down the middle. Elytra oblong-ovate, four times as long as the thorax, the shoulders prominent, obtusely rounded, moderately convex above, distinctly striated, the striæ closely and minutely punctured, the interstices narrow, convex, transversely rugulose; thickly covered with cinereous or silvery white scales, and a series of large subquadrate black spots alternating with white ones on the suture, and with black spots arranged in rows on the alternate interstices rather indistinct anteriorly but distinct posteriorly. Legs long, black; femora moderately clavate, simple, squamulose; tibiæ round, pubescent; tarsi elongate, piceous. Length 3 lines.

This very distinct insect may be discriminated, by having a longer rostrum than any other of the genus, by having the thorax laterally dilated before the middle, and the elytra spotted with black scales.

I understood Mr. Curtis that three specimens, all nearly alike, of this new British insect, were found near Dover, one of which I have seen in his cabinet. A single specimen was taken in the same locality by Mr. Marshall the latter end of July.

8. *Hypera Plantaginis*, DeGeer, Gyll., Steph.; Schönh., Kirb. MSS.

— *villosula** (sec. Mus. Wilk.), Steph.

— *cordicollis*, Kirb. MSS.

Occasionally found in several localities by brushing amongst grass, but never in any numbers.

9. *H. nigrirostris*, Fab., et auct. plur.

Common everywhere.

10. *H. trilineata*, Marsh., sec. Mus. Steph. et Kirb.

— *Trifolii*, Steph., non Herbst.

— *stramineus* var., Marsh., Steph. sec. ej. Man.

— *borealis*, Germ. Mag. iv. p. 339.

— *nigrirostris* var., Gyll., Schönh.

Curc. dissimilis var. *major*, Herbst.

Never clothed with brilliant green scales like *Hy. nigrirostris*, and may further be distinguished from the varieties of that insect by having a dark denuded stripe on the middle of each elytron posteriorly, bordered within and without by a series of white or fuscous spots: as to the form, size and sculpture it very closely resembles the foregoing.

Although Gyllenhal and Schönherr have cited this insect as a variety of the preceding, yet I concur with Germar that it is sufficiently distinct.

Common in the North of England on the different species of *Vicia*, *Trifolium* and *Medicago*.

11. *H. variabilis*, Herbst, et auct. plur.

— *sublineata* (var. sec. Mus. Kirb.), Steph.

— *bimaculatus*, Marsh., Steph. sec. ej. Mus.

— *villosula* (sec. Mus. Wilk.), Steph.

— *stramineus*, Marsh. sec. Mus. Kirb.

— *phaopa* var. et *rufipes* var., Steph. sec. ej. Man.

Very abundant on the same plants as the last.

12. *H. meles*, Fab. sec. ej. Mus., Germ., Schönh.

Rh. Trifolii, Gyll.

Curc. Plantaginis, Marsh. sec. Steph. Catal.

H. murina, Steph.

— *picipes* var., Steph. sec. ej. Man.

This insect differs from the preceding by having the thorax very short, and much more dilated at the sides.

There are foreign specimens which agree with it in the cabinet of Mr. Kirby from Gyllenhal.

Rare in the vicinity of London. Taken near Ross, Herefordshire, by Mr. Spry.

* This synonym is repeated under No. 11, because it is represented in Wilkins's cabinet by two different insects.

13. *Hypera suspiciosa*, Herbst, Germ., Schönh., Steph. Man.
Curc. miles, Pk., Gyll., Steph.
 — *pedestris*, Pk., Gyll., Steph., var. sec. Germ. et Schönh.
 — *biteniatus*, Marsh.
 — *senex*, Kirb. MSS.

Variable in form : the narrow elongate varieties have been mistaken for *Curc. elongata* of Gyll., of which there are foreign specimens in the cabinet of the Rev. F. W. Hope.

Frequently found in damp meadows and in marshy places.

14. *H. Arundinis*, Fab., et auct. alior.
Rhynch. Sii, Leach MSS.

Extremely rare ; I do not possess a specimen, nor have I heard of any recent captures : there are examples in the cabinets of the British Museum, Entomological Society, Mr. Stephens and Mr. Curtis.

Genus *LIMOBIUS*, Schönh.*

Hypera, Germ., Steph., Curt.

Phytonomus, Schönh. olim.

Char. Gen. Antennæ moderate, rather slender, eleven-jointed ; scape moderately incrassated towards the apex, reaching to the eyes ; funiculus six-jointed, the first longer and stouter than the second, third obovate, fourth and fifth nodose, sixth cup-shaped ; clava ovate or oblong-ovate, four-jointed. Rostrum twice or three times as long as the head, rather stout, rounded ; scrobes oblique, somewhat deep. Eyes lateral, oval, more or less prominent. Thorax, base and apex truncate, dilated and rounded at the sides. Scutellum minute. Elytra ovate or oblong-ovate, the shoulders obtusely angulated, moderately convex above, densely clothed with scales.

Obs. Closely approximating to the genus *Hypera*, but the funiculus of the antenna is only six-jointed.

1. *Limobius dissimilis*, Gyll., Germ., Schönh.
Hypera fulvipes, Steph.
 — *fumipes*, Curt. Ann. Nat. Hist. v. p. 280.

I found many specimens of this insect upon *Geranium pratense* growing on hedge-banks near East Tanfield, Yorkshire, in July. Taken in Scotland by the Rev. W. Little ; Newcastle, Mr. S. Stevens.

2. *L. mixtus*, Schönh.

Oblong-ovate, black, thickly clothed with metallic brown or cinereous scales, variegated with white and black, and with short suberect black hairs. Head short, convex, thickly punctulated ;

* Mant. secund. Fam. Curc. p. 44. Holmiæ, 1847.

eyes oviform, rather prominent; rostrum as long as the thorax, round, thickish, bent, and closely punctulated. Antennæ inserted near the apex of the rostrum in the male, and between the middle and the apex in the female, testaceous; clava oblong-ovate, obscure, testaceous. Thorax as broad in the middle as long, a little more narrowed before than behind, moderately dilated and rounded at the sides, rather convex above, closely and delicately punctulated; clothed with brown scales, a large rhomboidal pale patch on the disc, and a broad whitish line on each side. Elytra ample, oblong-ovate, shoulders very prominent, obtusely rounded, punctate-striate, interstices rugulose; thickly clothed with conico-ovate scales, two subquadrate velvety black spots at the base, a short white line on the scutellum, an oblique pale vitta down each elytron, broadest on the shoulders, spotted with black on the margins, and united beyond the middle to a transverse irregular silvery white fascia, which is joined to a subtriangular velvety black one. Legs moderate, rufo-testaceous, pubescent; tarsi elongate. Length $1\frac{2}{3}$ —2 lines.

Exclusively of the six-jointed funiculus to the antennæ, this insect is well characterized, by the conspicuous velvety black fascia on the elytra, combined with the conico-ovate scales.

Varieties occur with gray or silvery white scales, and these being more subject to abrasion, are frequently found partially denuded, and the spots and stripes more or less obscure; others occur of a brassy yellow, with the markings distinct, and the body and legs pale testaceous.

Many specimens of this insect were found on *Erodium cicutarium* on the Chesil Bank, Isle of Portland, in June, by Mr. Wollaston, to whose indefatigable industry, we are indebted not only for this, but for many other additions to the British fauna; subsequently found in the same locality by Mr. Bowerbank and myself in September.

Genus *TROPIPHORUS*, Schönh.

Barynotus, Germ., Schönh. olim, Steph.

Char. Gen. "Antennæ moderate, rather slender; scape clavate, extending beyond the eyes; funiculus with the two basal joints somewhat long, subclavate, remainder rotundate; clava ovate, acuminate. Rostrum shortish, stout, subcylindrical, a little incrassated towards the apex, carinated above; scrobes curved, evanescent before the eyes. Eyes rounded, depressed. Thorax truncated at the base and apex, rotundate-emarginate beneath adjoining the neck, the sides straight at the base, rounded anteriorly, narrowed in front, carinated above. Scutellum none. Elytra short-ovate, when closed emarginated interiorly at the

base, shoulders scarcely prominent, with an elevated carina towards the apex of the suture. Femora clavate, unarmed.

Obs. "Allied to the genus *Barynotus*, but chiefly differs in having the rostrum and thorax carinated; and without a scutellum."—Transcribed from Schönherr.

1. *Tropiphorus Mercurialis*, Fab., Gyll., Schönh., Newm.
Curc. Æcidii var., Marsh., Kirb. MSS.
Barynotus Mercurialis var., Steph.
 — *Terricola* var., Newm. Ent. Mag. v. p. 173.

I have found many specimens of this insect on *Mercurialis perennis* in a shady wood near Mickleham, Surrey, in June, which have the alternate interstices of the elytra distinctly elevated. I have also found many specimens by brushing amongst grass in meadows, and in moss in the woods of Yorkshire, that have the alternate interstices of the elytra scarcely or very slightly elevated, but agreeing exactly with the former in every other character; the latter are considered by Gyllenhal and Schönherr as varieties, and after a most careful examination of numerous specimens I have no hesitation in citing them as such.

I possess foreign specimens from Germar.

GENUS *BARYNOTUS*, Germ., Schönh.
Merionus, Steph.

1. *B. obscurus*, Fab., Gyll., Germ., Steph.
 — *pilosulus*, Marsh.
2. *B. mærens*, Fab., Herbst, Germ.
 — *elevatus*, Marsh., Steph.

GENUS *OTIORHYNCHUS*, Germ.

O. ebeninus, Schönh.

Elongate-ovate, black and shining. Head short, broad, a little convex, obsoletely punctulated posteriorly, front rugose-punctate, with a deep round fovea; eyes round, brown, moderately prominent; rostrum rather longer than the head, stout, angulated, dilated at the apex, rugulose-punctate above, with a carinula in the middle a little elevated and obsoletely bifid anteriorly. Antennæ half the length of the body, black or piceous, pilose and pubescent. Thorax somewhat longer than broad, equally dilated and rounded at the sides, convex above, subpulvinate, closely tuberculated at the sides, punctured or remotely punctured on the back, totally black and glabrous. Scutellum short, triangular. Elytra elongate-ovate, not broader anteriorly than the base of the thorax, a little expanded before the middle, attenuated posteriorly, acutely rounded at the apex, four times longer than

the thorax, convex above, distinctly punctate-striate, the punctures rather large, remote, angulated, the lateral interstices tuberculated, obsoletely rugose on the back, totally black and shining. Body black beneath, granulated and cinereo-pubescent anteriorly; abdomen punctulated. Legs rather long, stout, black; femora robust, clavate, simple; tibiæ pilose; tarsi dilated, piceous, clothed beneath with a flavescens pulvillus. Length 5 lines.

This insect may be placed in the genus next to *Otiorynchus tenebricosus*, to which it is nearly related.

I have a foreign specimen of *Ot. ebeninus* of Schönherr from Germar.

Four specimens of this insect, which is new to the British fauna, were found by Mr. R. N. Greville on the west highlands of Scotland, to whose liberality I am indebted for a specimen.

XXXI.—Notes on the Species, Structure, and Animality of the Freshwater Sponges in the Tanks of Bombay. (Genus Spongilla.) By H. J. CARTER, Esq., Assistant Surgeon*.

THERE are four† species of Freshwater Sponges in the Tanks of Bombay, each of which is readily distinguished by the following characters:—

Two are known from the other two by the peculiar form of the spicula which encrust their seed-like bodies.

1. Is darkly cinereous or mouse-coloured when dry, purplish under water when alive, encrusting, repent, spreading in circular patches when isolated; smooth or interrupted by gentle eminences on the surface, attaining the thickness of half an inch in the centre, oscula tending towards a quineuncial arrangement; texture compact, fine, delicate; structure reetangularly reticulated; friable. Seed-like bodies spherical, 1-67th of an inch in diameter. Spicula of two kinds, large and small; large spicula smooth, slightly curved, pointed at each end, 1-80th of an inch long; small spicula straight or slightly curved, thickly spiniferous, 1-400th of an inch long.

2. Is of a faintly yellow or bright green colour, enerusting, repent, spreading in irregular patches on fixed bodies, globular when surrounding a floating nucleus; even or interrupted by gentle eminences on the surface when fixed, presenting meandering ridges and sulei when attached to floating bodies; attaining the thickness of half an inch when fixed, of two inches when floating; texture coarse and open, structure reetangularly reticulated with a suberose crust slightly tenacious. Seed-like

* Reprinted from the Transactions of the Bombay Medical and Physical Society of 1847, and communicated by the Author.

† See Postscript at p. 310.